

In re Application of SUBRAMANIAN et al.
Serial No. 10/693,630

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REMARKS

The Office action has been carefully considered. The Office action rejected claims 1-4, 18, 20, 28, 36, and 65 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,741,242 B1 to Itoh et al. ("Itoh") in view of *Scalable Vector Graphics specification version 1.1* revised January 14, 2003 ("SVG"). Further, the Office action rejected claims 5-17, 19, 21-27, 30-35, 37-64, and 66-67 under 35 U.S.C. §103(a) as being unpatentable over Itoh in view of SVG and in further view of U.S. Patent Publication 2004/0110490 to Steele et al. ("Steele"). Further yet, the Office action rejected claims 1-67 under 35 U.S.C. §101 as being directed to non-statutory subject matter. Still further, the Office action rejected claims 1-36 under 35 U.S.C. §112, first paragraph and second paragraph as being directed to subject matter not enabled by the specification. Finally, the Office action provisionally rejected claim 1 as being directed to subject matter also claimed in copending U.S. Patent application 10/693,633. Applicants submit that claim 1 has been amended to sufficiently distinguish itself from any copending applications. Furthermore, claims 1-36 have been clarified to obviate the §112 rejections. Regarding the §103 claim rejections, applicants respectfully disagree.

By present amendment, claims 1, 36, and 65 have been amended for clarification and not in view of the prior art. Claim 2 has also been amended to sufficiently distinguish this claim from claim 4 as suggested by the Office action. Applicants submit that the claims as filed were patentable over the prior art of record, and that the amendments herein are for purposes of clarifying the claims

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and/or for expediting allowance of the claims and not for reasons related to patentability. Reconsideration is respectfully requested.

Applicants thank the Examiner for the interview held (by telephone) on July 14, 2006. During the interview, the Examiner and applicants' attorney discussed the claims with respect to the prior art. The essence of applicants' position is incorporated in the remarks below.

Prior to discussing reasons why applicants believe that the claims in this application are clearly allowable in view of the teachings of the cited and applied references, a brief description of the present invention is presented.

The present invention is directed to a new approach to computer graphics that utilizes a new element object model and a vector graphics markup language for accessing element object models in a manner that allows program code developers to consistently interface with a scene graph data structure to produce graphics. This new system and method includes a media integration layer (MIL) which provides an application program interface (API) for programmers to accomplish possibly complex composition effects within their applications in a straightforward manner, while leveraging the graphics processing unit in a manner that does not adversely impact normal application performance.

One aspect of the present invention is generally directed to an architecture, referred to as the media integration layer (MIL), that includes an immediate mode graphics application programming interface (API), a screen-partitioning data structure, a set of control level objects, and a markup language. In general, the architecture may allow program code, such as an application or operating system

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component, to communicate drawing instructions and other information (e.g., image bitmaps) to graphics components in order to render graphical output on the system display. As such, the present invention may provide a number of defined functions and methods, e.g., in the form of APIs to an object model, that enable programs to populate a scene graph with data structures, instruction lists (drawing primitives / commands), and other graphics-related data. When processed, the scene graph results in graphics being displayed on the screen.

Via the interfaces, the MIL may provide access to a data structure for storing visual information so that applications can take advantage of the graphics capabilities provided by the computer hardware. The interfaces may support an element object model and a vector graphics markup language for using that element object model in a manner that allows program code developers to consistently interface with a scene graph data structure to produce graphics. The data structure may also be used for either directly rendering or for "compiling" the visual information so that it can be provided to a lower level graphics system for fast composition and animation

Note that the above description is for example and informational purposes only, and should not be used to interpret the claims, which are discussed below.

Rejections under §101

The Office action rejected claims 1-67 as being directed to non-statutory subject matter. Applicants respectfully disagree and submit that the claims are directed toward a method and system capable of being carried out in a computer,

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e.g., a computer-implemented method or computer system. MPEP § 2106(IV)(B)(1) specifically states that "a claimed computer readable medium encoded with a data structure *defines* (emphasis added) structural and functional interrelationships between the data structure and the medium which permit the data structure's functionality to be realized, and is thus statutory." In contrast, MPEP § 2106(IV)(B)(1a) goes on to state further "[d]ata structures *not claimed as embodied in computer-readable media* (emphasis added) are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer."

Claim 1 recites a computer-implemented method which is clearly within the confines of software embodied in a computer-readable medium operable to be manipulated by a computer. Specifically, the computer-implemented method comprises receiving a function call, interpreting markup, causing data to be modified, and causing a change in a display. Any one of these elements makes the claim statutory with respect to § 101. As but one example, a modification of stored data essentially by definition (and consistent with the claim language) results in a change to data in a computer system that makes claim 1 and its dependent claims statutory. The recited language in claim 1 is replete with structure and/or functionality.

Notwithstanding this functionality, claim 1 has been amended to recite causing a change in a display in response to the modification of data in the scene graph. Clearly, causing a change in a display is well within statutory limits. Claims 36 and 65 have been also amended similarly and applicants submit that for at least

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the same arguments presented with respect to claim 1 that claims 36 and 65 are also directed to statutory subject matter. Applicants submit that the §101 rejection be withdrawn and that for at least these reasons, claims 1-67 are directed to statutory subject matter.

Rejections under §112

The Office action rejected claims 1-36 as not enabled because a computer, which the Office action deems critical, is not claimed in these claims. Applicants do not understand this rejection as claim 1 is directed to a computer-implemented method. The Office action specifically suggests that claim 1 be amended to recite "a computer-implemented method." Applicants point out, however, that claim 1 already recites this. Furthermore, claim 1 recites receiving a function call via an application program interface of a media integration layer as well as causing data in a scene graph data structure to be modified based on the function call. At least these two recitations are easily construed to be steps in a computer-implemented method and by implication, at least one computer is necessarily invoked to carry out these steps using the specific computer-related components, *i.e.*, an application program interface, a media integration layer, a scene graph data structure, *etc.* Claim 1 and similarly claim 36, are replete with structural functionality that fall well within the confines of any number of computer systems and applicants submit that the disclosure more than adequately discloses the recitations of these claims.

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With regard to the specific language questions raised by the Office action, applicants submit that all claim language and recitations are used within the scope of the specification and within the well-established definition of these terms in the computer arts. To the extent that the Office action has interpreted various terms for the purpose of examination, applicants submit that these interpretations may or may not be correct, adequate, or otherwise feasible, but rely upon the disclosure and/or the common everyday use of these terms by those skilled in the art. Applicants submit that all §112 rejections, however, have been addressed either by argument or amendment herein and respectfully request that these rejections be withdrawn.

Rejections under §103(a)

Turning to the §103 rejections, the Office action contends that the recitations of claim 1 are unpatentable over Itoh in view of SVG. More specifically, the Office action contends that the prior art of record teaches receiving a function call via an application program interface. The SVG converter of Itoh and the XML source document of SVG are referenced. Further, the Office action contends that the prior art of record teaches causing data in a scene graph data structure to be modified based on the function call. The Java AWT API of Itoh and SVG are referenced. Furthermore, throughout the explanation of the reasons that Itoh and SVG are presented as prior art, the Office action refers to arguments detailing disclosures from Kim (U.S. Patent Publication 2003/0120983 to Kim et al.) which is not cited in

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this current Office action, (although it is presented in other related pending applications).

The Office action acknowledges that the prior art of record does not teach a media integration layer as the Office action expresses confusion over the definition of the term media integration layer. Notwithstanding, the Office action concludes that one skilled in the art at the time the invention was made would have combined the teachings of Itoh and SVG because doing so provides the system of Itoh with greater functionality and flexibility using a single data structure. Applicants respectfully disagree.

To establish *prima facie* obviousness of a claimed invention, all of the claim recitations must be taught or suggested by the prior art; (*In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)), and "all words in a claim must be considered in judging the patentability of that claim against the prior art;" (*In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)). Further, if prior art, in any material respect teaches away from the claimed invention, the art cannot be used to support an obviousness rejection. *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed Cir. 1997). Moreover, if a modification would render a reference unsatisfactory for its intended purpose, the suggested modification / combination is impermissible. See MPEP § 2143.01

Applicants submit that the Office action has failed to establish a *prima facie* case for obviousness. Itoh is directed to a system for integrating and displaying multimedia documents. In particular, the system of Itoh utilizes a framework function section for operating with a parser wherein the system can interpret

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various drawing tags in a document described in a markup language. By parsing the markup, the system of Itoh then generates a framework for synchronizing and operating various drawing primitives and generates a two-dimensional drawing command and a three-dimensional drawing command based on the framework. In this manner, two-dimensional objects and three-dimensional objects may be rendered in a web browser more easily. Itoh, however, is silent with respect to any method or system in which a function call in a markup language is initiated via an application programming interface (API).

Quite different from the prior art of record, claim 1 recites receiving a function call via an API of a media integration layer. It is well established in the computer arts that an API may be a set of routines used by an application program to direct the performance of procedures, for example, by a computer's operating system. In this embodiment, the API is operable to receive a function call that comprises markup language data. Such a function call that is in a markup language provides an interchange format for expressing vector graphics via the element object model.

The Office action contends that Itoh teaches receiving a function call via an API, the function call comprising markup language data. This is an inaccurate interpretation of the teachings of Itoh. Specifically, Itoh concedes that a two-dimensional drawing command of Java AWT prepared as a Java applet is the only drawing command capable of a graphics display on its Web browser without unnecessary installation on the client personal computer. See column 19, lines 7-11 of Itoh. Therefore, any three-dimensional rendering function section is

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structured to internally process a mechanism of a three-dimensional graphics pipeline and call an API of Java AWT for a final drawing command. See column 19, lines 11-14 of Itoh. Thus, Itoh teaches that when three-dimensional graphics are required, a separate applet must be called via an API for the applet. Itoh goes on to teach that the three-dimensional rendering function receives a three-dimensional drawing command, which indicates an attribute, a behavior, or a setting, from a rendering function section. The three-dimensional drawing command then generates graphics display data for expressing a drawing in three dimensions with a command set for a final two-dimensional drawing of Java AWT. The graphics display data is then passed to the API of Java AWT provided by a Web browser. Thus, to get from function call to the API, Itoh teaches taking a drawing command (which is not in a mark-up language) to generate graphics display data (which is still not in a mark-up language) which may then be passed to an API of an applet for then interpreting the graphics display data to be interpreted by a web browser. See column 19, line 51 to column 20, line 3 of Itoh.

Handling a function call in a first format (graphics command format) and an interim second format (graphics display format) and then via an API to yield data is far different than a function call in a markup language as recited in claim 1. For the sake of argument, even if the two formats described above may be considered a markup language of sorts, the fact remains that Itoh teaches a transition with two interim steps that the limitations of the present invention do not have. Simply put, Itoh does not teach or even suggest the method of the present invention as recited in the system of claim 1.

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In fact, Itoh teaches a system having the very problem that is solved by the present invention. The reason that the function call of Itoh is manipulated so much is that the Java applet of Itoh is a conventional Java applet that cannot handle a function call received in a markup language. The function call must necessarily be translated to a format suitable with the application programming interface of the Java applet. Translating data that already exists in a markup language into a format other than a markup language format for the specific purpose of engaging an API fits squarely within the very definition of teaching away, as generally espoused in *In re Geisler*. Clearly, then, Itoh may not be used in the manner suggested in the Office action.

As such, applicants maintain that nowhere in any prior art of record can there be found a teaching or suggestion of a function call in a markup language received via an API. Applicants submit that the Office action has failed to establish a *prima facie* case of obviousness as all of the language in the recitations has not been either disclosed or suggested by the prior art of record. Notwithstanding, claim 1 has been amended to recite that the function call in a markup language is in a native format further distinguishing claim 1 from the prior art of record.

Furthermore, the Office action contends that there is motivation to combine Itoh and SVG because SVG brings additional functionality to the system of Itoh wherein a single data structure may be used. This is erroneous logic. Simply alleging that different graphics systems *may be combined* is not evidence of motivation to combine the teachings. To use a similar analogy, two wholly different devices may be complementary and supplementary because each device

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embodies functionality that the other lacks. However, simply being complementary and supplementary would not render obvious another device that may embody some of the complementary features of both other devices. Such broad, conclusory statements do not come close to adequately addressing the issue of motivation to combine, are not evidence of obviousness, and therefore are improper as a matter of law. *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). Further, if anything, the references teach away from such a combination, as discussed above. Applicants submit that there is no motivation to combine the teachings of Itoh and SVG in this manner.

For at least the foregoing reasons, applicants submit that claim 1 is allowable over the prior art of record.

Applicants respectfully submit that dependent claims 2-35, by similar analysis, are allowable. Each of these claims depends either directly or indirectly from claim 1 and consequently includes the recitations of independent claim 1. As discussed above, Itoh and SVG, (and Steele in the case of several dependent claims) whether considered individually or in any permissible combination with each other or other prior art of record, fail to teach or suggest the recitations of claim 1 and therefore these claims are also allowable over the prior art of record. In addition to the recitations of claim 1 noted above, each of these dependent claims includes additional patentable elements.

Turning to the next independent claim, the Office action rejected claim 36 and cited almost exactly the same sections of Itoh and SVG as were cited with respect to the rejection of claim 1. As before, applicants respectfully disagree.

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Applicants submit that the Office action has failed to establish a *prima facie* case for obviousness. Itoh is directed to a system that utilizes a framework function section for operating with a parser wherein the system can interpret various drawing tags in a document described in a markup language. By parsing the markup, the system of Itoh then generates a framework for synchronizing and operating various drawing primitives and generates a two-dimensional drawing command and a three-dimensional drawing command based on the framework. In this manner, two-dimensional objects and three-dimensional objects may be rendered in a web browser more easily. Itoh, however, is silent with respect to any method or system in which a function call in a markup language is initiated via an application programming interface (API).

Quite different from the prior art of record, claim 36 recites at least some of the objects of the object model having application program interfaces in a media integration layer that is among a plurality of layers for invoking functions to modify contents of the scene graph data structure, wherein the functions are in a markup language in a native format.

Notwithstanding, the Office action contends that Itoh teaches receiving a function call via an API, the function call comprising markup language data. This is an inaccurate interpretation of the teachings of Itoh. To get from function call to the API, Itoh teaches taking a drawing command (which is not in a mark-up language) to generate graphics display data (which is still not in a mark-up language) which may then be passed to an API of an applet for then interpreting the graphics

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display data to be interpreted by a web browser. See column 19, line 51 to column 20, line 3 of Itoh.

Handling a function call in a first format (graphics command format) and an interim second format (graphics display format) and then via an API to yield data in a markup language is far different from the claim language. In fact, Itoh's teaching of translating data that already exists in a markup language into a format other than a markup language format for the specific purpose of engaging an API fits squarely within the very definition of teaching away as generally espoused in *In re Geisler*. Clearly, then, Itoh may not be used to support a § 103(a) rejection as a matter of law.

Applicants respectfully submit that dependent claims 37-64, by similar analysis, are allowable. Each of these claims depends either directly or indirectly from claim 36 and consequently includes the limitations of independent claim 36. As discussed above, Itoh and SVG, (and Steele in the case of several dependent claims) whether considered individually or in any permissible combination with each other or other prior art of record, fail to achieve the legal requirements that must be met in order to support a §103(a) rejection.

Turning to the last independent claim, the Office action rejected claim 65 citing almost exactly the same sections of Itoh and SVG as were cited with respect to the rejection of claim 1. As before, applicants respectfully disagree.

Applicants submit that the Office action has failed to establish a *prima facie* case for obviousness, for at least reasons similar to those set forth above with

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respect to claim 1. Applicants also respectfully submit that dependent claims 66-67, by similar analysis, are allowable.

For at least these additional reasons, applicants submit that all the claims are patentable over the prior art of record. Reconsideration and withdrawal of the rejections in the Office action is respectfully requested and timely allowance of this application is earnestly solicited.

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CONCLUSION

In view of the foregoing remarks, it is respectfully submitted that claims 1-67 are patentable over the prior art of record, and that the application is in good and proper form for allowance. A favorable action on the part of the Examiner is earnestly solicited.

If in the opinion of the Examiner a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney at (425) 836-3030.

Respectfully submitted,


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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this Response, along with transmittal and facsimile cover sheet, are being transmitted by facsimile to the United States Patent and Trademark Office in accordance with 37 C.F.R. 1.6(d) on the date shown below:

Date: August 31, 2006


Albert S. Michalik

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